



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/742,314	12/21/2000	Philip W. Diodato	8-35-22	5870

7590

10/08/2003

AGERE SYSTEM INC.
FOUR CONNELL DRIVE
ROOM 4U533C
BERKELEY HEIGHTS, NJ 07922-0614

EXAMINER

NGUYEN, JOSEPH H

ART UNIT

PAPER NUMBER

2815

DATE MAILED: 10/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/742,314

Applicant(s)

DIODATO ET AL.

Examiner

Joseph Nguyen

Art Unit

2815

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

Art Unit: 2815

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma et al in view of Tanigawa.

Regarding claim 1, Ma et al discloses on figure 1 an integrated circuit comprising a semiconductor substrate 20 including semiconductor devices; a first wiring layer 38 having an associated thickness being located over the substrate and having interconnect wire 48 embedded therein; a second wiring layer 58 having an associated thickness being located on the first wiring layer 38 and having interconnect wire embedded therein; and a capacitor having a first metal based charge storage electrode 26, a second metal based charge storage electrode 30, and a dielectric layer 28 interposed between the charge storage electrodes, the charge storage electrodes extending through at least part of the first wiring layer 38 wherein the capacitor is completely disposed in a window formed in the wiring layer. Ma et al does not disclose a capacitor extending through the thickness of the second wiring layer and at least part of the first wiring layer. However, Tanigawa discloses on figure 3 a capacitor extending through the thickness of the second wiring layer 10 and at least part of the first wiring

Art Unit: 2815

layer 6. In view of such teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ma et al by having a capacitor extending through the thickness of the second wiring layer and at least part of the first wiring layer for the purpose of increasing the capacitance of the storage capacitor per unit area as taught by Tanigawa (col. 2, lines 44-45).

Regarding claims 2-8, Ma et al and Tanigawa together disclose all the structure set forth in the claimed invention.

Response to Arguments

Applicant's arguments filed on 7/28/2003 have been fully considered but they are not persuasive.

Applicant argues that in figure 3 of Tanigawa, the capacitor is not completely disposed in a window formed in insulating layers 6, 8 and 10. However, since Ma et al discloses on figure 1 the capacitor is completely disposed in a window, the only difference between the claimed invention and Ma et al is a capacitor extending through the thickness of the second wiring layer and at least part of the first wiring layer as now recited in amended claim 1. As clearly stated this Office Action above, Tanigawa discloses on figure 3 a capacitor extending through the thickness of the second wiring layer 10 and at least part of the first wiring layer 6. As such, the combination of Ma et al and Tanigawa reads on the claimed invention therein.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that

Art Unit: 2815

any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Nguyen whose telephone number is (703) 308-1269. The examiner can normally be reached on Monday-Friday, 7:30 am- 4:30 pm

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on (703) 308-1690. The fax phone numbers for the organization where this application or proceeding is assigned is (703) 308-7382 for regular communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

JN
August 27, 2003



EDDIE LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800